



# Energize the BoP

Inclusive Energy Business Model Generator

**Konferenz „Im Abseits der Netze“  
12. Januar 2011, Claudia Knobloch (endeava UG)**

# Agenda

Problem: Energy Poverty

Challenge: Successful Business Models

Inclusive Business Model Generator

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# 1.4 People lack access to electricity



# Light from kerosene is expensive





# Cooking with wood is unhealthy



# Solutions for energy at the BoP



# Agenda

Problem: Energy Poverty

Challenge: Successful Business Models

Inclusive Business Model Generator



## Partners

Collaboration on funding, communication and research with several partners

## Project

To develop a practical guide to developing energy business models based on existing experiences

## Problem

Too many people lack access to clean & affordable energy sources; Most energy business models fail or remain small

## People

- endeva team
- Researchers from several universities

# Partner



Bundesministerium für  
wirtschaftliche Zusammenarbeit  
und Entwicklung



Institut für Infrastruktur  
und Ressourcen-  
management, Leipzig  
University

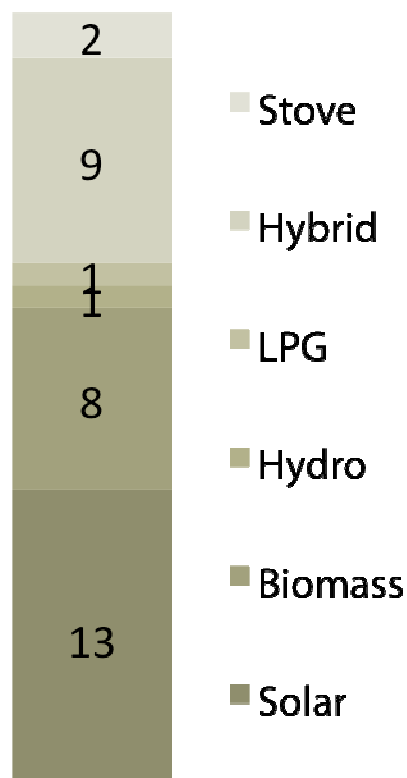


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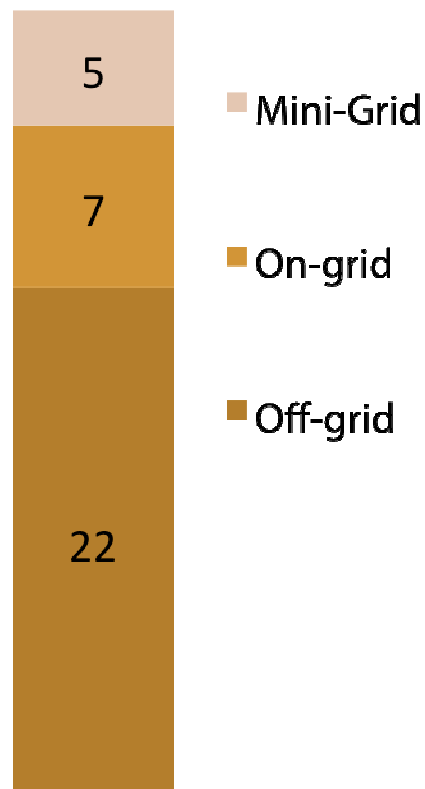


# Case selection

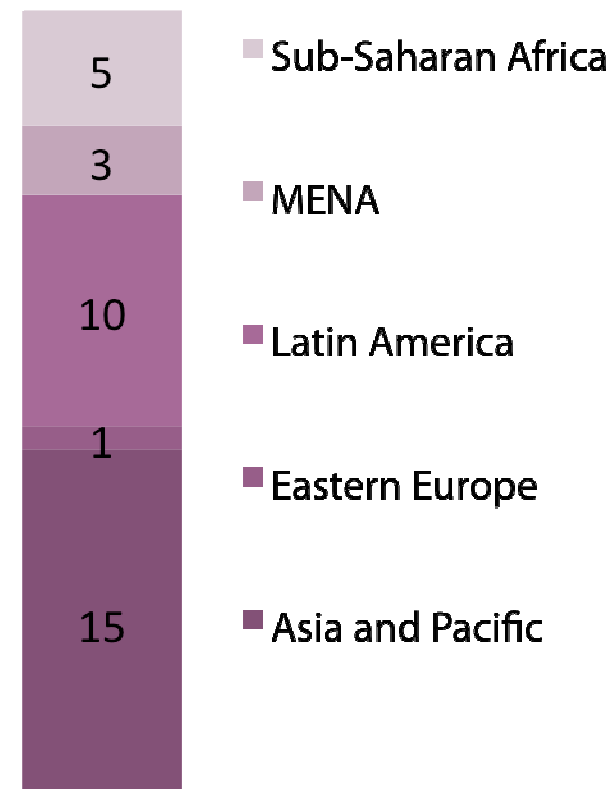
## Technology



## Connection type



## Region



1

What constraints do businesses face? What solutions have they found to deal with them?

2

What are crucial elements for the business development? What are best practices in different phases?



# Agenda

Problem: Energy Poverty

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## Case profile: Selco

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India  
Off Grid  
Solar  
112000

### Short description:

SELCO partners with local banks and microfinance organisations to give people in India access to reliable and cost-effective sources of power. It provides solar, tailored photovoltaic systems installed in homes and also for market-stall holders and small businesses.

### Main constraints:

- Knowledge gap of customers and staff
- Lack of finances of customers

### Development:

- The Founder of Selco did a PhD on Sustainable Energy and had first hand experiences of solar applications by poor people in the Dominican Republic and Sri Lanka

Sales

Pay-  
ments

Service

End-of-  
Life

### Customer Interface

- SELCO service centres are only opened where demand exists
- 25 regional service centres in 2-3 h range to customers
- Providing linkages to rural banks and MFI
- SELCO used Ashden Award money they won to give down payment guarantees
- Provide budgeting schemes/advice and "money boxes" for customers
- doorstep service and maintenance
- Give guarantees (10 years on panels and 3 years on batteries)
- Provide immediate "emergency break-down" support
- The installation is carried out by trained technicians
- All maintenance is carried out by trained technicians
- Each system is maintained twice a year and break down (emergency) service once a year is included
- Via slightly higher loans a second battery will be purchased and delivered after the first one breaks down (but 3 years guarantee)
- The old battery has to be turned in and can be recycled

# Customer Interface - Elements

## Sales

- Communicate and sell the product to the customer.

## Pay- ment

- Provide payment and financing options that make the product affordable and ensure compliance.

## Service

- Install and maintain the equipment and provide required fuels.

## End-of- Life

- Avoid premature product failure and ensure safe and sustainable disposal.
- Avoid waste from fuels.

# Cross-Cutting Challenges

## Market Information

- Limited understanding of customer preferences
- The market situation and regulatory processes can be intransparent due to regulation

## Regulatory Environment

- People lack legal land titles, leading to contracting and credit issues
- Due to bad experiences, customers lack trust
- Payments from the poor can be difficult to secure
- Lack of security increases theft and damages to equipment

## Physical Infrastructure

- Lack of power grids or access to grid connection
- People in remote areas are hard to reach
- Rough natural environment causes damages to equipment

## Skills and Knowledge

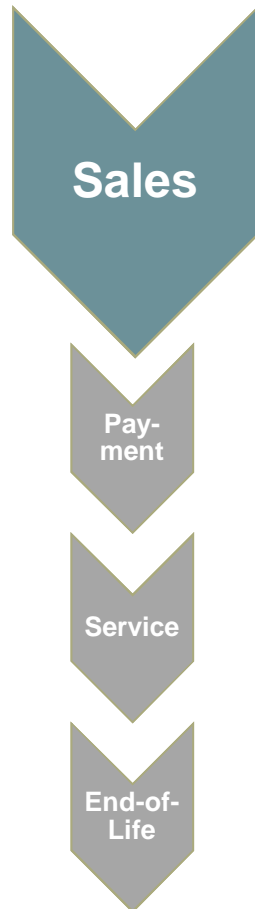
- Companies find it hard to recruit skilled staff
- Customers lack knowledge on energy use; above all „new“ solutions eg renewables

## Access to financial services

- Customers cannot afford high upfront cost
- Customers don't have access to credit



# Business Model Generator



## Challenges

## Sales 9

### Challenges

- ☐ **Limited understanding of customer preferences**
- ☐ **Lack of property rights**
- ☐ **Inefficient delivery channels**
- ☐ **Lack of skills among staff**
- ☐ **Lack of knowledge about products and their use amongst customers.**

### Description

- Insufficient knowledge about the target group
- No research & consulting services available
- Products likely to fail because they are not liked, needed or seen as appropriate
- Lack of legal title hampers contracting, esp. for grid connections
- Retail and logistics services are limited
- Own distribution is hampered by poor road conditions
- Local staff lack skills to effectively deliver services
- People benefit from bad

## Objectives & Solutions

## Sales 10

### Objectives

- 1 Understand market to deliver appropriate products and services
- 2 Remove legal and administrative barriers and create trust
- 3 Be close to the customer
- 4 Ensure competent customer interaction
- 5 Inform customers about all aspects of the product and its use

### Solutions

**Conduct market research**

**Collaborate with local authorities**

**Create local market research**

**Train staff** **Objective:** Understand market to deliver appropriate products and services

**Educate**

Approach	Example
<b>Use standards and specialized market research methods</b> <ul style="list-style-type: none"> <li>Home stays</li> </ul>	SolarAid performs market research through specially trained solar entrepreneurs.
<b>Test product with customers</b> <ul style="list-style-type: none"> <li>Show product at markets or fairs</li> <li>Demonstrate the product in the communities / at home</li> <li>Test-sell the product</li> </ul>	After D. Light conducted field research about customer's needs, several products are tested on the market to decide which products will finally be provided.
<b>Find specialized support</b> <ul style="list-style-type: none"> <li>Chambers of commerce</li> <li>Local donors</li> <li>Export agencies</li> </ul>	

## Sales 11



### Constraints addressed

- ☒ Limited understanding of customer preferences

# Checklist Design Options

**Sales**



## Challenges

**Limited understanding of customer preferences**

## Solutions

Conduct market research via home stays and product test with potential customers

**Payment**



**Liquidity**

Connect with microfinance institution

**Service**



**Lack of skills among customer**

Educate customers for appropriate use and to maintain products

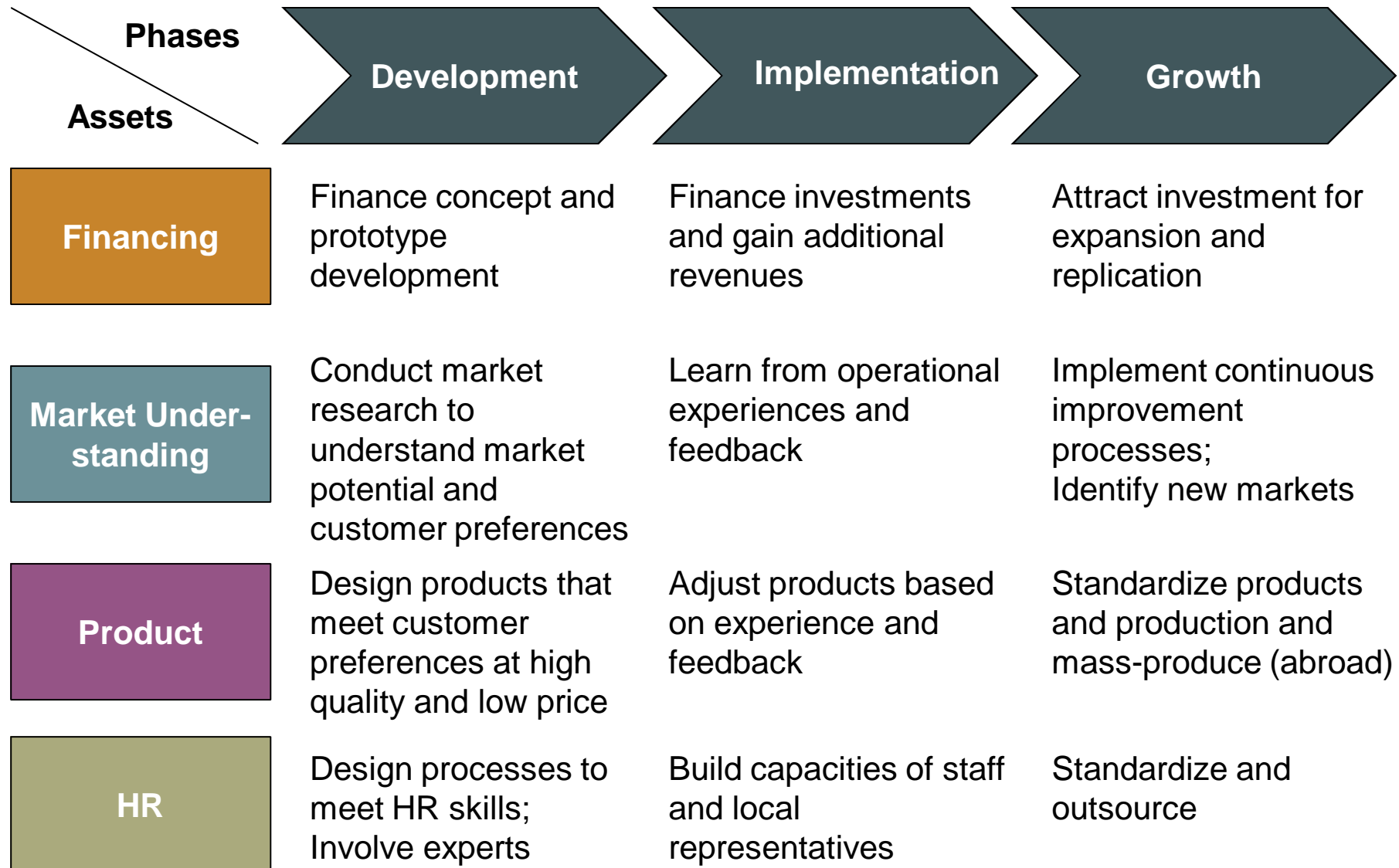
**End-of-Life**



**Lack of waste management system**

Set up a system to reuse and recycle batteries

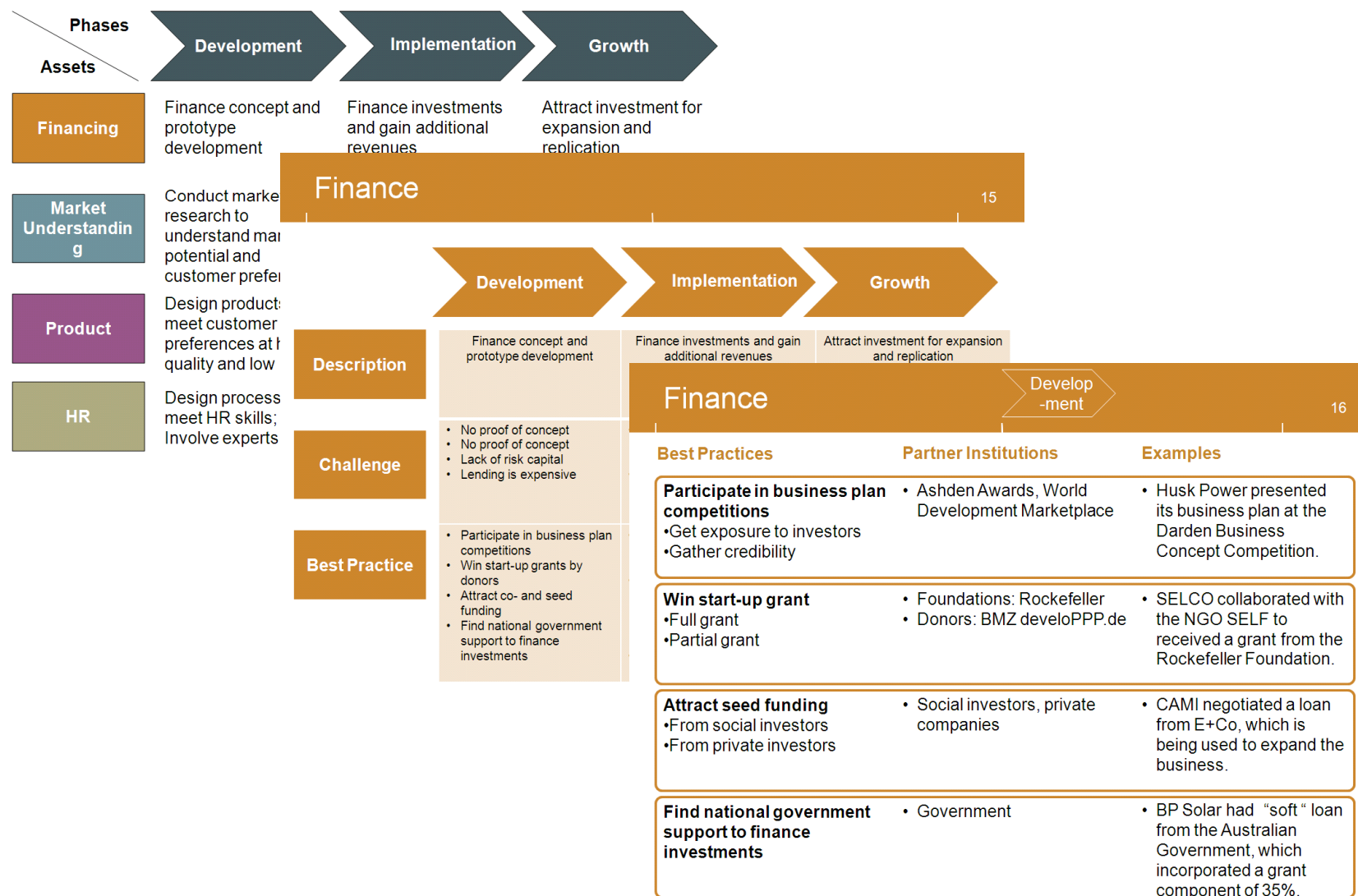
# Business Development Process



# Finding Best Practices

## Business Development Process Good Practices

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# Thanks for your attention!

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# BACKUP

### Challenges

### Description



**Limited understanding of customer preferences**

- Insufficient knowledge about the target group
- No research & consulting services available
- Products likely to fail because they are not liked, needed or seen as appropriate



**Lack of property rights**

- Lack of legal title hampers contracting, esp. for grid connections



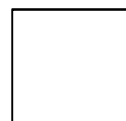
**Inefficient delivery channels**

- Retail and logistics services are limited
- Own distribution is hampered by poor road conditions and local infrastructure



**Lack of skills among staff**

- Local staff is often lack education and training
- Skills are required to communicate the product effectively and establish trust



**Lack of knowledge about products and their use amongst customers.**

- People are not aware of product functionality and benefits or advantages of legal connection
- Bad experiences in the past might cause distrust

### Objectives

1

Understand market to deliver appropriate products and services

2

Remove legal and administrative barriers and create trust

3

Be close to the customer

4

Ensure competent customer interaction

5

Inform customers about all aspects of the product and its use

### Solutions

**Conduct market research**

**Collaborate with local authorities**

**Create local representation**

**Train staff and local representatives**

**Educate the target group**



# 1 - Conduct market research

Sales

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**Objective:** Understand market to deliver appropriate products and services



## Approach

## Example

### Use standards and specialized market research methods

- Home stays

SolarAid performs market research through specially trained solar entrepreneurs.

### Test product with customers

- Show product at markets or fairs
- Demonstrate the product in the communities / at home
- Test-sell the product

After D.Light conducted field research about customer's needs, several products are tested on the market to decide which products will finally be provided.

### Find specialized support

- Chambers of commerce
- Local donors
- Export agencies

## Constraints addressed

- ☒ Limited understanding of customer preferences